

claims 13-20. Applicants reserve the right to pursue claims 13-20 in a timely filed divisional application.

Applicants respectfully request reconsideration of the rejection of claims 1, 3, 21, and 22 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,863,328 to Sichmann et al. (“Sichmann”). As will be explained below, Sichmann does not disclose each and every feature specified in independent claims 1 and 21, as presented herein.

In support of the anticipation rejection, the Examiner cites column 3, lines 3-15, and items 14, 56, and 18-20 shown in Figure 2 of Sichmann. Applicants submit that the components of the Sichmann device cited by the Examiner do not correspond to the components specified in Applicants’ claims. In response to the Examiner’s comparison, however, Applicants submit that item 14 shown in Figure 2 of Sichmann “corresponds” to the “base” recited in Applicants’ claims and that items 18-20 and 56 “correspond” to the “sidewall” recited in Applicants’ claims because these items extend from item 14 (the “base”). Viewing the components of the Sichmann device cited by the Examiner in this manner, for the reasons set forth below, the Sichmann device does not disclose each and every feature specified in independent claims 1 and 21.

Considering first independent claim 1, this claim specifies that the lower portion of the base has a plurality of drain holes formed therein proximate to the sidewall. In the Sichmann device, excess fluid that is spun off a substrate flows through openings between bars 56 that connect guide elements 19 and 20 (see column 3, lines 5-10). As bars 56 form part of the “sidewall” shown by Sichmann, Applicants respectfully submit that the Sichmann device does not include a base having drain holes as specified in claim 1. Instead, the Sichmann device includes a “base” without drain holes and a “sidewall” that has openings through which the excess fluid flows.

For the sake of argument, even if bars 56 are deemed to constitute part of the lower portion of the “base” in the Sichmann device, Sichmann still does not anticipate claim 1 because the openings between bars 56 are not configured to trap fluid therein during spinning to form a fluid seal that prevents air from flowing through such openings. In this regard, relative to central longitudinal axis R, Applicants note that, as depicted in Figure 2, the outermost portion of bars 56 is located closer to the central longitudinal axis R than the innermost tip of guide element 20. Thus, during spinning, any excess fluid that collects in the “elbow” region formed where guide elements 19 and 20 are joined would spill out of this region due to gravity before the excess fluid could fill the openings between bars 56 and form a fluid seal in such openings. In support of this assertion, Applicants note that Sichmann is silent not only as to the formation of a fluid seal, but also as to the use of a lid. That Sichmann does not describe the use of a lid compels the conclusion that the device of Sichmann is not configured to form a fluid seal in the openings between bars 56. Indeed, given that air may freely enter the bowl from the opening at the top thereof, it would make no sense for Sichmann to take steps to prevent air from entering the bowl through the openings between bars 56. Accordingly, Sichmann does not disclose a bowl having drain holes configured to trap fluid therein during spinning to form a fluid seal as specified in claim 1.

Turning to independent claim 21, Applicants have amended this claim to specify that the drain holes in the lower portion of the base are oriented at an angle in the range of about 30 degrees to about 60 degrees relative to the horizontal plane defined by the upper portion of the base. In light of the changes to claim 21, Applicants have canceled claim 24. As discussed above with respect to claim 1, the Sichmann device does not include a base having drain holes, but rather includes openings between bars 56 that connect guide elements 19 and 20. For the sake of argument, even if bars 56 are deemed to constitute part of the lower portion of the “base” in the Sichmann device, Sichmann is silent as to the orientation of the

openings between bars 56. As such, regardless of how the structure of the Sichmann device is characterized relative to the claimed invention, Sichmann does not disclose drain holes having the orientation now specified in claim 21.

Accordingly, for at the least the foregoing reasons, claims 1 and 21, as presented herein, are patentable under 35 U.S.C. § 102(b) over Sichmann. Claim 3, which depends from claim 21, and claim 22, which depends from claim 21, are likewise patentable under 35 U.S.C. § 102(b) over Sichmann for at least the same reasons set forth above regarding the applicable independent claim.

Applicants respectfully request reconsideration of the rejection of claims 7-12 under 35 U.S.C. § 103(a) as being unpatentable over Sichmann in view of U.S. Patent No. 6,220,771 to Tung et al. ("Tung"). As will be explained below, the combination of Sichmann in view of Tung would not have suggested to one having ordinary skill in the art the subject matter defined in independent claim 7.

Claim 7 defines an apparatus for spin coating a film over a substrate that includes a rotatable spin bowl and a lid secured to the rotatable spin bowl. The rotatable spin bowl includes a base and a sidewall that extends from the base. The lower portion of the base has a plurality of drain holes formed therein proximate to the sidewall, with each of the drain holes being configured to trap fluid therein during spinning of the spin bowl to thereby form a fluid seal that prevents air from flowing therethrough. For the reasons set forth above in connection with the discussion of the anticipation rejection of claim 1, Sichmann does not disclose or suggest a spin bowl including a base having drain holes as specified in claim 7. The Tung reference, which the Examiner relies upon as teaching the use of a lid, does not cure the above-mentioned deficiencies of Sichmann relative to claim 7. As such, the combination of Sichmann in view of Tung would not have suggested to one having ordinary skill in the art the apparatus for spin coating a film over a substrate defined in claim 7.

Accordingly, for at least the foregoing reasons, independent claim 7 is patentable under 35 U.S.C. § 103(a) over the combination of Sichmann in view of Tung. Claims 8-12, each of which ultimately depends from claim 7, are likewise patentable under 35 U.S.C. § 103(a) over the combination of Sichmann in view of Tung for at least the same reasons set forth regarding claim 7.

Applicants respectfully request reconsideration of the rejection of claims 2, 4-6, and 23-25 under 35 U.S.C. § 103(a) as being unpatentable over Sichmann as applied to independent claims 1 and 21, and further in view of Tung. The deficiencies of Sichmann relative to independent claims 1 and 21, as presented herein, are set forth above in connection with the discussion of the anticipation rejection of these claims. The Tung reference does not cure the deficiencies of Sichmann relative to claims 1 and 21, as presented herein. Thus, as each of claims 2, 4-6, and 23-25 depends from either claim 1 or claim 21, these claims are patentable under 35 U.S.C. § 103(a) over the combination of Sichmann in view of Tung for at least the same reasons set forth above regarding the applicable independent claim.

As set forth above, Applicants have added independent claim 26. New claim 26 defines a spin bowl including a base and a sidewall that extends from the base. The base has an upper portion for supporting a substrate in a horizontal plane and a lower portion that intersects with the sidewall. The lower portion of the base has a plurality of substantially V-shaped drain holes formed therein proximate to the sidewall. As neither Sichmann nor Tung discloses or suggests a spin bowl having a base with substantially V-shaped drain holes formed therein, Applicants submit that claim 26 is patentable under 35 U.S.C. §§ 102 and 103 over these references, either individually or in combination.

In view of the foregoing, Applicants respectfully request reconsideration and reexamination of claims 1-12, 21-23, and 25, as presented herein, and examination of new claim 26, and submit that these claims are in condition for allowance. Accordingly, a notice

of allowance is respectfully requested. In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at **(408) 749-6902**. If any fees are due in connection with the filing of this paper, then the Commissioner is authorized to charge such fees to Deposit Account No. 50-0805 (Order No. NOVEP005).

Respectfully submitted,
MARTINE & PENILLA, LLP

A handwritten signature in black ink, appearing to read 'P. B. Martine', with a long horizontal line extending to the right.

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MARKED-UP VERSION OF AMENDED CLAIM

21. (Amended) A spin bowl, comprising:

a base and a sidewall that extends from the base, the base having an upper portion for supporting a substrate in a horizontal plane and a lower portion that intersects with the sidewall, the lower portion of the base having a plurality of drain holes formed therein proximate to the sidewall, each of the drain holes being oriented at an angle in a range of about 30 degrees to about 60 degrees relative to the horizontal plane defined by the upper portion of the base, the sidewall having an upper portion that extends upwardly from the base and a lower portion that extends downwardly from the base so as to at least partially define an external fluid catch area that receives excess fluid that drains from an interior of the spin bowl through the drain holes, the external fluid catch area being configured to retain the excess fluid while the spin bowl is spinning and thereby prevent the excess fluid from leaving the spin bowl at high velocity.